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| 09/701,572      | 01/29/2001  | Eva Kondorosi        | 200204US0PCT        | 5065             |

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EXAMINER

COLLINS, CYNTHIA E

ART UNIT PAPER NUMBER

1638

DATE MAILED: 06/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/701,572

Applicant(s)

KONDOROSI ET AL.

Examiner

Cynthia Collins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 March 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 1,2 and 8-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☒ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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**DETAILED ACTION*****Election/Restrictions***

Applicant's election with traverse of Group II, claims 3-7, in Paper No. 9 is acknowledged. The traversal is on the ground(s) that the cited reference of Luo et al. does not support the contention that the technical feature of the instant invention does not define a contribution over the prior art, because the protein encoded by the cDNA of Luo et al. belongs to a subgroup of proteins with repeated WD40 motifs distinct from the FZR subgroup. The traversal is on the ground(s) that the Office has not applied the same standard of unity of invention as the International Preliminary Examination Authority. Additionally, traversal is on the ground(s) that a search of all the claims would not impose a serious burden on the Office. This is not found persuasive first because the protein of Group I and the nucleic acid of Group II do not have a common structure, and are therefore not linked by a special technical feature. The Examiner acknowledges, however, that the protein encoded by the cDNA of Luo et al. does belong to a subgroup of proteins with repeated WD40 motifs distinct from the FZR subgroup. The search and examination of the instant application reveal, however, that a DNA sequence encoding a plant protein with repeated WD40 motifs belonging to the FZR subfamily is obvious or anticipated over GenBank Accession No. AB005230 (02 July 1997), which encodes a plant protein with repeated WD40 motifs belonging to the FZR subfamily, as indicated in the instant specification (page 4 lines 24-39 and Figure 1A). This is also not found persuasive because the Office is not required to apply the same standard of unity of invention as the International Preliminary Examination Authority. Additionally, this is not persuasive because while the search of Groups I-IV may overlap, their searches are not coextensive of each other. In this particular

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instance, a search of Group II is not coextensive with a search of Groups I and III-IV, since Group I requires a search for a protein which is not claimed in Group II, Group III requires a search of the use of a protein to regulate the differentiation and proliferation of plant cells, which is not claimed in Group II, and Group IV requires a search of the use of a nucleic acid to regulate the differentiation and proliferation of plant cells, which is not claimed in Group II. Claims 1-2 and 8-11 are withdrawn from consideration as being directed to nonelected inventions.

The requirement is still deemed proper and is therefore made FINAL.

#### ***Oath/Declaration***

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because: the citizenship of each inventor is not identified in English.

#### ***Specification***

The abstract of the disclosure is objected to because the form and legal phraseology used in patent claims is included. Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

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The disclosure is objected to because of the following informalities: the specification does not contain a brief description of the drawings section (MPEP § 608.01(f) and 37 CFR 1.74). Additionally, the description of those drawings described does not include a description for each figure of the drawings. Appropriate correction is required.

### *Claim Objections*

Claim 3 is objected to because it depends from a claim directed to a nonelected invention. Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 3-7 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a written description rejection.

The claims are drawn to a purified nucleic acid fragment comprising all or part of a sequence encoding a plant protein with repeated WD40 motifs belonging to the FZR subfamily, as well as to a recombinant vector containing said nucleic acid fragment, and a cell and transgenic plant transformed with said nucleic acid fragment.

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The specification describes a single purified nucleic acid fragment (ccs52Ms) obtained from *Medicago sativa*, SEQ ID NO:1, that encodes a polypeptide of SEQ ID NO:2 (CCS52Ms), which has homology to the fizzy-related class of proteins (page 3), which inhibits growth and induces endoreduplication expressed in *S. pombe* SP-Q01, which reduces CDC13 when expressed in *S. pombe* SY1 (pages 14-16), and which increases the conversion of calli to embryos in transgenic *Medicago truncatulata* (pages 20-21). This does not constitute a substantial portion of the genus that comprises a purified nucleic acid fragment comprising all or part of a sequence encoding a plant protein with repeated WD40 motifs belonging to the FZR subfamily. The claimed genus encompasses a multitude of different nucleotide sequences and plant proteins, including those yet to be discovered. The disclosure of a single nucleotide sequence that encodes a plant protein with repeated WD40 motifs belonging to the FZR subfamily does not provide an adequate description of the claimed genus, and in view of the level of knowledge and skill in the art, one skilled in the art would not recognize from the disclosure that the applicant was in possession of the claimed genus (see Written Description Guidelines, Federal Register, Vol. 66, No. 4, January 5, 2001, pages 1099-1111).

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Claims 3-7, and claim 1 as it is incorporated into claim 3, are indefinite because an article does not modify the first word of each claim. It is suggested that the claims be amended to recite the appropriate article.

Claim 3 as it incorporates the limitations of claim 1 is indefinite in the recitation of "characterized in that". It is unclear what characteristics of the FZR subfamily the plant protein possesses. It is suggested that the claim be amended to recite a transitional phrase such as "comprising" or "consisting of".

Claim 3 as it incorporates the limitations of claim 1 is indefinite in the recitation of "FZR subfamily". The meaning of the acronym "FZR" is unclear. It is suggested that the claim be amended to recite "fizzy-related" in addition to the acronym "FZR".

Claim 3 is indefinite in the recitation of "characterized in that". It is unclear what characteristics of the sequence the nucleic acid fragment possesses. It is suggested that the claim be amended to recite "wherein said fragment" rather than "characterized in that".

Claim 4 is indefinite in the recitation of the indefinite article "a" before "nucleic acid fragment according to claim 3". It is suggested that the claim be amended to recite "the nucleic acid fragment according to claim 3".

Claim 4 is indefinite in the recitation of "containing". The relationship between the recombinant vector and the nucleic acid fragment it contains is unclear. It is suggested that the claim be amended to recite a transitional phrase such as "comprising" or "consisting of".

Claim 6 is indefinite in the recitation of "cell transformed according to claim 5", since claim 5 does not recite a means of transforming a cell. It is suggested that the claim be amended to recite "The transformed cell according to claim 5".

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Claim 6 is indefinite in the recitation of "characterized in that". It is unclear what characteristics of the plant cell the transformed cell possesses. It is suggested that the claim be amended to recite "wherein said cell is a plant cell" rather than "characterized in that it is a plant cell".

Clarification or correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 3-5 are rejected under 35 U.S.C. 102(b) as being anticipated by GenBank Accession No. AB005230 (02 July 1997).

The claims are drawn to a purified nucleic acid fragment comprising all or part of a sequence encoding a plant protein with repeated WD40 motifs belonging to the FZR subfamily, as well as to a recombinant vector containing said nucleic acid fragment, and a cell transformed with said nucleic acid fragment.

GenBank Accession No. AB005230 teaches a purified nucleic acid fragment comprising all of a sequence encoding an *Arabidopsis* cell cycle switch protein with repeated WD40 motifs belonging to the FZR subfamily. Although GenBank Accession No. AB005230 does not explicitly teach a recombinant vector containing said nucleic acid fragment or a cell transformed with said nucleic acid fragment, such a recombinant vector and transformation of a cell therewith would necessarily have been used to clone the nucleic acid sequence.



Claims 3-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Zhou et al. (Mol. Gen. Genet. Vol. 257, No. 4, pages 387-391, February 1998).

The claims are drawn to a purified nucleic acid fragment comprising all or part of a sequence encoding a plant protein with repeated WD40 motifs belonging to the FZR subfamily, as well as to a recombinant vector containing said nucleic acid fragment, and a cell and transgenic plant transformed with said nucleic acid fragment.

Zhou et al. teach a purified nucleic acid fragment comprising a part of a sequence encoding an *Arabidopsis* protein with repeated WD40 motifs, as well as a recombinant vector containing said nucleic acid fragment, and a cell and transgenic plant transformed with said nucleic acid fragment. Although the purified nucleic acid fragment of Zhou et al. itself does not encode a plant protein belonging to the FZR subfamily, claim 3 reads on a nucleic acid fragment comprising a sequence that is identical to any part of a sequence encoding a plant protein with repeated WD40 motifs belonging to the FZR subfamily, including a fragment as small as a single nucleotide. Thus any prior art teaching any transformed plant or plant cell would anticipate the claimed invention, as the nucleic acid encoding a plant protein belonging to the FZR subfamily would comprise any of the four nucleotides of a DNA sequence. Furthermore, the claims do not recite a functional limitation for the nucleic acid fragment, and the complementary sequence as claimed is not full-length and would read on a two base sequence.

***Remarks***

No claim is allowed.

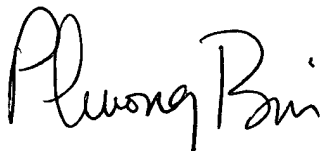
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Collins whose telephone number is (703) 605-1210. The examiner can normally be reached on Monday-Friday 8:45 AM -5:15 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson can be reached on (703) 306-3218. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-4242 for regular communications and (703) 308-4242 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

CC  
June 14, 2002

  
PHUONG T. BUI  
PRIMARY EXAMINER